

### **REMARKS**

Upon entry of the amendment, claims 1-3, and 4 are pending in the present application. The claims have been amended in the expectation that the amendments will place this application in condition for allowance. The amendments do not introduce new matter within the meaning of 35 U.S.C. § 132. Accordingly, entry of the amendments is respectfully requested.

#### **1. Rejection of Claims 1, 2, & 5** **under 35 U.S.C. § 103(a)**

As the basis for this rejection, the Official Action states, in relevant part:

Coronell et al. disclose a method for synthesis of nitrogen trifluoride by the reaction of a fluorine reactant and an ammonium complex reactant at conditions which will generate nitrogen trifluoride. (see the Abstract and column 2, line 8 - column 3, line 7.) The reaction shown in the Abstract of Coronell et al. shows that the molar ratio of fluorine to the ammonium complex is 3. The difference between the process disclosed by Coronell et al., and that recited in applicant's claims 1, 2 and 5, is that applicant's claims 1, 2, and 5 require that the temperature is -20°C to 0°C. I would be prima facie obvious to carry out the process of Coronell et al. at a temperature of -20°C to 0°C, since it would be within the skill of one of ordinary skill in the art to determine a suitable temperature at which to operate the process.

Coronell et al. teach at column 2, lines 37 and 38 that the temperature of the reaction is "preferably" in the range of 93°C to 204°C. Accordingly, Coronell et al. contemplate

temperatures outside such range, and it would have been within the realm of routine experimentation to determine temperatures which could operate outside such a range. It is well-established that non-preferred embodiments in the prior art nevertheless constitute teachings upon which a prima facie case of obviousness may be based. There is no evidence on record showing a higher selectivity of nitrogen trifluoride synthesis in the process of Coronell et al. when employing a reaction temperature of -20°C to 0°C.

Applicants have amended claim 1 to include the subject matter of allowable claim 3, thereby clarifying the inventive subject matter and removing the basis for the rejection.

To establish a *prima facie* case of obviousness, the USPTO must satisfy three requirements. First, the prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference. *In re Fine*, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Second, the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *Amgen Inc. v. Chugai Pharm. Co.*, 18 USPQ2d 1016, 1023 (Fed. Cir. 1991). Lastly, the prior art references must teach or suggest all the limitations of the claims. *In re Wilson*, 165 USPQ 494, 496 (C.C.P.A. 1970).

**A. Present Inventive Subject Matter**

The presently pending claims relate to a process for preparing nitrogen trifluoride, by the fluorination of urea and products of urea decomposition with elemental fluorine in anhydrous hydrogen fluoride at a temperature of -20°C to 0°C and with the molar ratio of said fluorine to starting compounds of not over 3.

**B. Disclosure of the Primary Reference**

In contrast, Coronell et al. disclose a method for the synthesis of nitrogen trifluoride from elemental fluoride gas and an ammonium complex reactant, e.g., ammonium acid fluoride.

**C. Differences between the presently claimed invention  
and the reference**

Applicants respectfully submit that the process for preparing nitrogen trifluoride by the fluorination of urea and products of urea decomposition using elemental fluorine and an anhydrous hydrogen fluoride is not taught by Coronell et al. Coronell et al. rely on an ammonium complex reactant which contains fluorine. In contrast, the presently claimed invention utilizes urea and products of urea decomposition. It would not be obvious to one of skill in the art using the teachings of Coronell et al. at the time of the present invention to produce nitrogen trifluoride using the process of the present claims. Accordingly, applicants

respectfully request the Examiner to reconsider and withdraw the rejection of pending claims 1, 2 and 5.

**2. Rejection of Claims 3-5 under 35 U.S.C. §112, 2d paragraph**

Claims 3-5 stand rejected under 35 U.S.C. § 112, second paragraph, for the following reasons,

being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. In claim 3, the recitation of "selected from the group comprising" is improper Markush terminology. In claims 4 and 5, the recitation of "preferably" renders the scope of the claims vague and indefinite.

Applicants respectfully submit that the claims have been amended to remove the basis for these rejections. Accordingly, the Examiner is respectfully requested to reconsider and withdraw these rejections.

**CONCLUSION**

Based upon the above remarks, the presently claimed subject matter is believed to be novel and patentably distinguishable over the prior art of record. The Examiner is therefore respectfully requested to reconsider and withdraw the rejections of claims 1-5. Favorable action with an early allowance of all claims pending in this application is earnestly solicited.

The Examiner is welcomed to telephone the undersigned attorney if he has any questions or comments.

Respectfully submitted,

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A handwritten signature in dark ink, appearing to read "GM Nath", is written over a horizontal line.

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